ELSEVIER

Chemical Engineering Journal 80 (2000) 305

Chemical Engineering Journal

www.elsevier.com/locate/cej

Author Index of Volume 80

Abu-Orf, M.M. 65

Biggs, S. 3, 13, 23
Bott, R. 245
Bürger, R. 91, 105, 177
Burns, J.L. 23

Chandler, J.L. 189
Chen, Wu 295
Chiné, B. 257, 267
Cilliers, J.J. 283
Collantes, J. 257
Concha, F. 105, 135, 257, 267
Csempesz, F. 43

Deng, Y. 31
Dentel, S.K. 65
Diehl, S. 119
Dyakowski, T. 275

Ehrfeld, E. 245
Eriksson, J. 51

Evje, S. 91

Farrow, J.B. 141, 149
Fawell, P.D. 149
Fitzpatrick, C.S.B. 197
Font, R. 157, 167

Glover, S.M. 3

Habgood, M. 13
Hall, D. 197
Heiskanen, K. 289

Jameson, G.J. 3, 13, 23
Johnston, R.R.M. 141, 149

Karlsen, K.H. 91
Kraipech, W. 275

Langeloh, Th. 245
Laveda, M.L. 157

Lee, D.J. 37
Lie, K.-A. 91
Lin, C.L. 221

Mann, N.R. 237
Mayer, E. 233
Miller, J.D. 221

Nageswararao, K. 251
Nguyen, T.B. 149
Nowakowski, A.F. 275

Parchevsky, K.V. 73
Parma, F. 295
Pasquier, S. 283
Pérez, M. 167

Quispe, J. 135

Ribitsch, V. 203
Rudman, M. 149

Simic, K. 141, 149
Smiles, D.E. 215
Swift, J.D. 141, 149

Tiller, F.M. 105
Todd, T.A. 237
Toledo, P.G. 135
Tory, E.M. 81
Tsou, G.W. 37

Wågberg, L. 51
Walker, C.A. 65
Williams, R.A. 275
Wu, R.M. 37

Yan, Y.-d. 3, 13, 23
Yan, Z. 31
Yaroshchuk, A.E. 203

Zydek, N. 295

1385-8947/00/$ – see front matter © 2000 Elsevier Science S.A. All rights reserved.
PII: S1385-8947(00)00249-7

ELSEVIER

Chemical Engineering Journal 80 (2000) 307–310

Chemical Engineering Journal

www.elsevier.com/locate/cej

Subject Index of Volume 80

Acrylamide
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51
Active layer
The uses of non-steady-state membrane characterisation techniques for the study of transport properties of active layers of nanofiltration membranes: theory with experimental examples, 203
Adsorbed layer thickness
Enhanced flocculation of colloidal dispersions by polymer mixtures, 43
Adsorption
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51
Aggregate structure
Aggregate structures formed via a bridging flocculation mechanism, 13
Atomic force microscopy
The structure and strength of depletion force induced particle aggregates, 23
Axial symmetry
Axial symmetric flow model for a flat bottom hydrocyclone, 257
Axial velocity
Flow patterns in conical and cylindrical hydrocyclones, 267

Backwashing
Suspension concentration profiles during rapid gravity filter backwashing, 197
Batch sedimentation
Applications of the phenomenological theory to several published experimental cases of sedimentation processes, 105
Bentonite
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51
Boundary conditions
On boundary conditions and solutions for ideal clarifier–thickener units, 119
Bridging flocculation
Bridging flocculation studied by light scattering and settling, 3
Aggregate structures formed via a bridging flocculation mechanism, 13

Cationic compounds
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51
Cationic microparticle
Cationic microparticle based flocculation and retention systems, 31
Cellulose fibres
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51
Centrifugation
Optimization of slurry flocculation and dewatering based on electrokinetic and rheological phenomena, 65
Clarification
Filtration by falling particles, 189
Clarifier
On boundary conditions and solutions for ideal clarifier–thickener units, 119
Clarifying
Dynamic cross flow filtration, 245
Classification
A critical analysis of the fish hook effect in hydrocyclone classifiers, 251
Classifying
Dynamic cross flow filtration, 245
Colloidal dispersion
Enhanced flocculation of colloidal dispersions by polymer mixtures, 43
Competitive adsorption
Enhanced flocculation of colloidal dispersions by polymer mixtures, 43
Compression
Consolidation and aggregate densification during gravity thickening, 141
Hydrodynamic parameters from the Michaels and Bolger method, 167
Computational fluid dynamics
Recent developments in techniques and methodologies for improving thickener performance, 149
Conditioning
Optimization of slurry flocculation and dewatering based on electrokinetic and rheological phenomena, 65
Continuous column
Consolidation and aggregate densification during gravity thickening, 141
Continuous sedimentation
On boundary conditions and solutions for ideal clarifier–thickener units, 119
Cross flow filtration
Dynamic cross flow filtration, 245
Crossflow
Crossflow filtration testing of INEEL radioactive and non-radioactive waste slurries, 237
Crystalline limestone
Experimental hydrocyclone roping models, 289
Cut size
Evaluation of hydrocyclone models for practical applications, 295

Deforming systems
Use of material coordinates in porous media solute and water flow, 215
Depletion flocculation
The structure and strength of depletion force induced particle aggregates, 23
Deposit removal
Suspension concentration profiles during rapid gravity filter backwashing, 197
Design
Semi-batch test of sedimentation. Application to design, 157

1385-8947/00/$ – see front matter © 2000 Elsevier Science S.A. All rights reserved.
PII: S1385-8947(00)00250-3

Dewatering
Optimization of slurry flocculation and dewatering based on electrokinetic and rheological phenomena, 65
1-Dimensional flow
Use of material coordinates in porous media solute and water flow, 215
Discrete modeling
Discrete sedimentation model for ideal suspensions, 135
Downburst
Filtration by falling particles, 189
Dual polymers
Bridging flocculation studied by light scattering and settling, 3

Efficiency curves
A critical analysis of the fish hook effect in hydrocyclone classifiers, 251
Electrical response
The uses of non-steady-state membrane characterisation techniques for the study of transport properties of active layers of nanofiltration membranes: theory with experimental examples, 203
Enhanced flocculation
Enhanced flocculation of colloidal dispersions by polymer mixtures, 43
Equipment
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51

Filter cake
Pore structure and network analysis of filter cake, 221
Filtration
Optimization of slurry flocculation and dewatering based on electrokinetic and rheological phenomena, 65
Filtration by falling particles, 189
Crossflow filtration testing of INEEL radioactive and non-radioactive waste slurries, 237
Finite difference method
Numerical methods for the simulation of the settling of flocculated suspensions, 91
Fish hook effect
A critical analysis of the fish hook effect in hydrocyclone classifiers, 251
Fixed charge density
The uses of non-steady-state membrane characterisation techniques for the study of transport properties of active layers of nanofiltration membranes: theory with experimental examples, 203
Floc strength
The structure and strength of depletion force induced particle aggregates, 23
Flocculated suspension
Applications of the phenomenological theory to several published experimental cases of sedimentation processes, 105
Phenomenological foundation and mathematical theory of sedimentation–consolidation processes, 177
Flocculation
Cationic microparticle based flocculation and retention systems, 31
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51
Optimization of slurry flocculation and dewatering based on electrokinetic and rheological phenomena, 65
Consolidation and aggregate densification during gravity thickening, 141
Recent developments in techniques and methodologies for improving thickener performance, 149
Filtration by falling particles, 189
Fluid dynamics
Axial symmetric flow model for a flat bottom hydrocyclone, 257
Fluidisation
Filtration by falling particles, 189
Suspension concentration profiles during rapid gravity filter backwashing, 197

Grade efficiency
Evaluation of hydrocyclone models for practical applications, 295
Gravity filtration
Suspension concentration profiles during rapid gravity filter backwashing, 197
Grinding circuit
Experimental hydrocyclone roping models, 289

High molecular weight polymer
Aggregate structures formed via a bridging flocculation mechanism, 13
Hydrocyclones
A critical analysis of the fish hook effect in hydrocyclone classifiers, 251
Axial symmetric flow model for a flat bottom hydrocyclone, 257
Flow patterns in conical and cylindrical hydrocyclones, 267
The hydrodynamics of a hydrocyclone based on a three-dimensional multi-continuum model, 275
Sub-micron particle dewatering using hydrocyclones, 283
Evaluation of hydrocyclone models for practical applications, 295
Hydrocyclone roping
Experimental hydrocyclone roping models, 289
Hydrodynamic diffusion
Stochastic sedimentation and hydrodynamic diffusion, 81
Hydrodynamics
The hydrodynamics of a hydrocyclone based on a three-dimensional multi-continuum model, 275

Idaho National Engineering and Environmental Laboratory
Crossflow filtration testing of INEEL radioactive and non-radioactive waste slurries, 237
Ideal suspensions
Discrete sedimentation model for ideal suspensions, 135
Ill-posed problem
A new method for the reconstruction of the particle radius distribution function from the sedimentation curve, 73
Image analysis
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51
Initial-boundary value problem
Numerical methods for the simulation of the settling of flocculated suspensions, 91

Kinetics
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51

Laser Doppler velocimetry
Flow patterns in conical and cylindrical hydrocyclones, 267
Low angle laser light scattering
Aggregate structures formed via a bridging flocculation mechanism, 13

Markov
Stochastic sedimentation and hydrodynamic diffusion, 81
Mass fractal aggregates
The structure and strength of depletion force induced particle aggregates, 23
Mass fractal dimension
Bridging flocculation studied by light scattering and settling, 3
Aggregate structures formed via a bridging flocculation mechanism, 13

Material coordinates
Use of material coordinates in porous media solute and water flow, 215
Mathematical modeling
Axial symmetric flow model for a flat bottom hydrocyclone, 257
Michaels and Bolger method
Hydrodynamic parameters from the Michaels and Bolger method, 167
Mixed hyperbolic–parabolic PDE
Numerical methods for the simulation of the settling of flocculated suspensions, 91
Model
Evaluation of hydrocyclone models for practical applications, 295
Model equations
Phenomenological foundation and mathematical theory of sedimentation–consolidation processes, 177
Modelling
A critical analysis of the fish hook effect in hydrocyclone classifiers, 251
Monodisperse particles
Discrete sedimentation model for ideal suspensions, 135
Multi-continuum model
The hydrodynamics of a hydrocyclone based on a three-dimensional multi-continuum model, 275
Multi-fractal
Estimate of sludge floc permeability, 37

Nanofiltration
The uses of non-steady-state membrane characterisation techniques for the study of transport properties of active layers of nanofiltration membranes: theory with experimental examples, 203
Non-steady-state
The uses of non-steady-state membrane characterisation techniques for the study of transport properties of active layers of nanofiltration membranes: theory with experimental examples, 203
Numerical simulation
Numerical methods for the simulation of the settling of flocculated suspensions, 91
Applications of the phenomenological theory to several published experimental cases of sedimentation processes, 105

Operator splitting
Numerical methods for the simulation of the settling of flocculated suspensions, 91

Particle radius distribution
A new method for the reconstruction of the particle radius distribution function from the sedimentation curve, 73
Permeability
Estimate of sludge floc permeability, 37
Hydrodynamic parameters from the Michaels and Bolger method, 167
Phenomenological theory
Applications of the phenomenological theory to several published experimental cases of sedimentation processes, 105
Phenomenological foundation and mathematical theory of sedimentation–consolidation processes, 177
Polyacrylamide
Cationic microparticle based flocculation and retention systems, 31
Polyelectrolytes
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51
Polymer mixture
Enhanced flocculation of colloidal dispersions by polymer mixtures, 43

Radioactive waste slurries
Crossflow filtration testing of INEEL radioactive and non-radioactive waste slurries, 237
Raking
Consolidation and aggregate densification during gravity thickening, 141
Retention
Cationic microparticle based flocculation and retention systems, 31

Sedimentation
A new method for the reconstruction of the particle radius distribution function from the sedimentation curve, 73
Stochastic sedimentation and hydrodynamic diffusion, 81
Numerical methods for the simulation of the settling of flocculated suspensions, 91
Discrete sedimentation model for ideal suspensions, 135
Semi-batch test of sedimentation. Application to design, 157
Hydrodynamic parameters from the Michaels and Bolger method, 167
Sedimentation–consolidation process
Phenomenological foundation and mathematical theory of sedimentation–consolidation processes, 177
Semi-batch test
Semi-batch test of sedimentation. Application to design, 157
Settler
On boundary conditions and solutions for ideal clarifier–thickener units, 119
Settling
Bridging flocculation studied by light scattering and settling, 3
On boundary conditions and solutions for ideal clarifier–thickener units, 119
Settling column
Applications of the phenomenological theory to several published experimental cases of sedimentation processes, 105
Settling of flocculated suspensions
Numerical methods for the simulation of the settling of flocculated suspensions, 91
Sludge floc
Estimate of sludge floc permeability, 37
Small-angle static light scattering
The structure and strength of depletion force induced particle aggregates, 23
Solid–liquid separation
Crossflow filtration testing of INEEL radioactive and non-radioactive waste slurries, 237
Evaluation of hydrocyclone models for practical applications, 295
Solid–liquid suspensions
Sub-micron particle dewatering using hydrocyclones, 283
Solute flow
Use of material coordinates in porous media solute and water flow, 215
Static light scattering
Bridging flocculation studied by light scattering and settling, 3
Stochastic
Stochastic sedimentation and hydrodynamic diffusion, 81
Structure
Estimate of sludge floc permeability, 37
Sub-micron particle
Sub-micron particle dewatering using hydrocyclones, 283
Suspension concentration measurement
Suspension concentration profiles during rapid gravity filter backwashing, 197
Synthetic polymers
New equipment for detection of polymer induced flocculation of cellulosic fibres by using image analysis — application to microparticle systems, 51

Tangential velocity
Flow patterns in conical and cylindrical hydrocyclones, 267
Theory of mixtures
Phenomenological foundation and mathematical theory of sedimentation–consolidation processes, 177

Thickener
On boundary conditions and solutions for ideal clarifier–thickener units, 119
Semi-batch test of sedimentation. Application to design, 157
Thickener technology
Recent developments in techniques and methodologies for improving thickener performance, 149
Thickening
Dynamic cross flow filtration, 245
Three-dimensional geometric analysis
Pore structure and network analysis of filter cake, 221
Tikhonov regularization
A new method for the reconstruction of the particle radius distribution function from the sedimentation curve, 73
Turbidimeter
Filtration by falling particles, 189
Turbulence intensity
Flow patterns in conical and cylindrical hydrocyclones, 267

Vortex motion
Axial symmetric flow model for a flat bottom hydrocyclone, 257

Washing
Dynamic cross flow filtration, 245

X-ray microtomography
Pore structure and network analysis of filter cake, 221